

**STATEMENT OF BASIS****Page 1 of 5**

BAQ Engineering Services Division

2600 Bull Street, Columbia, SC 29201

Phone: 803-898-4123 Fax: 803-898-4079

Company Name: 3M Company – Greenville Film**Permit Number:** 1200-0073-CN**Permit Writer:**

Kirk Schneider

Date:

DRAFT

DATE APPLICATION RECEIVED: November 16, 2015**SIC/NAICS Code:** 3081/326113**EXPEDITED REVIEW**

Expedited review form received on November 16, 2015 and the permit application was accepted for expedited review on November 24, 2015.

FACILITY DESCRIPTION

Film Producer

PROJECT DESCRIPTION

Construction Permit Request. This facility is requesting to do the following:

- Install a new G3 Post-Tenter Coater (G3PTC) following the existing Tenter for the existing G3 Film Line (Current Title V Emission Unit 25)
- Install a new G3 Post-Tenter Coater Mixing Room (G3PTCM) for the new coater.
- Use the existing Heat Relax Oven (G3HRO) for drying capability for the proposed coater.

COLLOCATION DETERMINATION

The statement of basis for Construction Permit 1200-0148-CI states that the 3M Tape plant (1200-0148) and 3M Film plant (1200-0073) are located on the same property and have been determined to be co-located but it does not state what these facilities are co-located for. For the purpose of this project, it was assumed that these facilities are co-located for PSD, Title V and Title III and this facility agreed with this assumption.

SOURCE TEST REQUIREMENTS

No performance tests are required.

SPECIAL CONDITIONS, MONITORING, LIMITS

- This construction permit will establish a PSD avoidance limit of VOC < 40 tpy for project which includes the G3 Post-Tenter Coater, G3 Post-Tenter Coater Mixing Room and Heat Relax Oven).
- The 3M Tape plant (1200-0148) and 3M Film plant (1200-0073) in their current Title V permits have a combined VOC emission limit of 1,098.20 tpy. This limit is no longer in effect as it is a LAER avoidance limit. This facility was built before July 1, 1979 and is co-located with 3M Tape Plant. The facility's (3M Tape and Film plant combined) LAER baseline VOC emission rate was 998.2 tpy. 3M's net increase in VOC emissions since 1979 is less than 100 tpy (combination of tape and film plant). The limit came from $998.2 + 100$ (baseline + 100) = 1,098.20.



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Page 2 of 5

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PSD REVIEW

The Film Plant and Tape Plant are not PSD major for their combined PM, PM₁₀ and PM_{2.5} emissions because their emissions considering federally enforceable controls (baghouses) is less than 250 tpy but are PSD major for combined VOC emissions. The combined facility is classified as an existing PSD major source and is PSD major for combined VOC emissions. Therefore, the emissions increases from all sources affected by the project must be compared to the PSD significant emission rates in order to determine if PSD permitting is required.

The Film Plant is proposing to install a new G3 Post-Tenter Coater for the existing G3 Film Line (Title V Permit Emission Unit ID 025). There are several pieces of equipment/control equipment under this existing line. Based on the definitions in 52.21(b)(7), adding the proposed new coater for the purpose of PSD is classified as a new PSD emissions unit. The other equipment in the G3 Film Line are classified as existing PSD emission units and are not being modified as part of this project.

For projects that involve multiple types of PSD emission units, PSD applicability is determined using the hybrid test as specified in 52.21(a)(2)(iv)(f) which is the sum of the tests specified in 52.21(a)(2)(iv)(c) and 52.21(s)(2)(iv)(d). 52.21(a)(2)(iv)(c) requires the actual to projected actual test for existing PSD emission units and 52.21(a)(2)(iv)(d) requires the actual to potential test for new PSD emission units. Therefore, the emissions for the proposed post tenter coater are equal to potential emissions. Whereas, the existing equipment on the G3 Film Line would be based on projected actual emissions.

This project will emit VOC and HAP emissions only. The potential worst case VOC emissions for the G3 Post-Tenter Coater are 148.9 tons per year. This coater will be located downstream of all additional equipment at the facility and will not debottleneck any other equipment on the G3 Film Line.

Projected actual emissions under 52.21(b)(41) are defined as the maximum annual rate at which an existing emission unit is projected to emit in any one of the 5 years following the date the unit resumes regular operation after the project. Projected actual emissions can exclude the portion of the unit's emissions following the project that could have been accommodated during the previous 24-month period used to establish the baseline. Because the post tenter coater is not debottlenecking any existing equipment and the existing equipment is not modified as part of this project; the projected actual emissions + excludable emissions would be equal to the baseline emissions. Therefore, this portion of the analysis would be a net zero.

The PSD analysis for this project was then conservatively based on the potential emissions only from the proposed post tenter coater. The potential VOC emissions as indicated previously are 148.9 tons per year. The Film Plant has requested a 40 ton per year limit for VOC for the project in order to keep the project below the PSD major modification thresholds and not trigger PSD for this project.

EMISSIONS

- There are 5 materials that could be run on the proposed coater. The emission calculations were completed for each of the 5 materials based on the coating rate for each material and the VOC and HAP contents obtained from the material's SDS. The worst case emissions were determined from the highest of the 5 materials.
- The coating solution will be applied wet, so there are no particulate emissions from this process.
- The maximum potential VOC emissions from the highest coating scenario is 148.92 tpy which exceeds the PSD major modification threshold.
- Emissions for the 3M Tape plant were taken from Construction Permit 1200-0148-CI which is the last construction permit that has been issued to that facility.



STATEMENT OF BASIS

Page 3 of 5

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FACILITY-WIDE EMISSIONS

Pollutant	Emissions Prior to Changes (tpy)			Emissions After Changes (tpy)		
	Uncontrolled	Controlled	Limited	Uncontrolled	Controlled	Limited
Combined PM	690.03	47.85	N/A	690.03	47.85	N/A
Combined PM ₁₀	685.83	43.65	N/A	685.83	43.65	N/A
Combined PM _{2.5}	683.53	41.25	N/A	683.53	41.25	N/A
Combined SO ₂	101.15	No Control	N/A	101.15	No Control	N/A
Combined NO _x	93.95	No Control	N/A	93.95	No Control	N/A
Combined CO	59.58	No Control	N/A	59.58	No Control	N/A
Combined VOC	2,081.20	No Control	N/A	2,121.20	No Control	N/A
Combined Total HAP	953.84	No Control	N/A	982.74	No Control	N/A

OPERATING PERMIT STATUS

This facility is still a Title V source.

REGULATORY APPLICABILITY REVIEW

Regulation	Comments/Periodic Monitoring Requirements
Section II.E Synthetic Minor	This construction permit will establish a PSD avoidance limit of VOC < 40 tpy for the project.
Standard No.1	There are no new fuel burning operations as specified by SC Regulation 61.62.1 associated with this project.
Standard No.3 (state only)	This facility will not burn any waste.
Standard No.4	The G3 Film Line has been designated as a process and has a PM limit as specified by Section VIII and is specified by Condition 025.2 in the current Title V permit. The PM limit for this process will not change due to the new coater addition. A visible emissions limit for coating equipment is not specified elsewhere. The new G3 Post-Tenter Coater and G3 Post-Tenter Coater Mixing Room have each been assigned a 20% opacity limit as specified by Section IX(B) because they will be installed after 1985. There is no opacity limit for the existing Heat Relax Oven in the Title V operating permit and so it was also assigned a 20% opacity limit as it was installed in 2010.
Standard No.5	This regulation applies to specific existing processes. The G3 Film Line meets the definition of “Paper Coating” in Section I as the definition includes related web coating processes on plastic film. This regulation contains Section II Part C (Surface Coating of Paper, Vinyl, and Fabric) but the G3 Film Line’s Coater 1 was not in existence or under construction on July 1, 1979 which is the effective date of Part C as the coater was constructed in 2008. The G3 Film Line does not meet the definition of an “existing process” in Section I and so Part C does not apply to the G3 Film Line.
Standard No.5.2	There are no new sources of NO _x emissions associated with this project.



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Page 4 of 5

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Regulation	Comments/Periodic Monitoring Requirements
Standard No.7	<p>The Film Plant (SIC Code 3081) and Tape Plant (SIC Code 2672) are not specified as one of the 28 specific industry types for PSD applicability and is in the other category which specifies a PSD applicability trigger of 250 tpy. These plants emit PM, PM_{2.5}, PM₁₀, SO₂, CO, NO_x and VOC which are PSD pollutants. The Film Plant will have an emission increase in only VOC as a result of this project.</p> <p>The Film Plant and Tape Plant are PSD major for combined VOC emissions and so emissions increases from all sources affected by the project had to be compared to the PSD significant emission rates for each PSD pollutant in order to determine if PSD permitting is required. The Film Plant has requested a 40 ton per year limit for VOC for the project in order to keep the project below the PSD major modification thresholds and not trigger PSD for this project. (See PSD Review).</p>
61-62.6	The G3 Film Line does not generate fugitive emissions.
40CFR60 and 61-62.60	This facility does not have any sources that meet any of the applicability requirements of all the subparts contained in this regulation.
40CFR61 and 61-62.61	This facility does not have any sources that meet any of the applicability requirements of all the subparts contained in this regulation.
40CFR63 and 61-62.63 Major Source MACT Subpart JJJJ	<p>The Film Plant and Tape Plant have combined uncontrolled individual HAP emissions greater than 10 tpy, uncontrolled total (sum of individual) HAP emissions greater than 25 tpy and is classified as a major source. Subpart JJJJ (National Emission Standards for Hazardous Air Pollutants: Paper And Other Web Coating) was reviewed for applicability.</p> <p>The G3 Film Line was previously determined to be subject to this subpart and the addition of the new G3 Post-Tenter Coater will not change any existing applicable requirements from this regulation.</p>
61-62.68	This facility does not store any of the regulated chemicals above the threshold quantities.
40CFR64	<p>The G3 Film Line is subject to a PM limit from Standard 4 Section VIII which is non-exempt regulation but pre-controlled PM₁₀ emissions are less than 100 tpy. PM₁₀ emissions will not change with the addition of the new G3 Post-Tenter Coater.</p> <p>VOC emissions from the G3 Film Line are greater than 100 tpy but this facility does not use a control device to control VOC emissions from this line.</p>

AMBIENT AIR STANDARDS REVIEW

Regulation	Comments/Periodic Monitoring Requirements
Standard No.2	This facility was exempted from having to demonstrate compliance with this standard by using air dispersion modeling for this project. See modeling summary dated December 3, 2015.
Standard No.7.c	<p>This facility is located in Greenville County. PSD minor source baselines for PM₁₀ and SO₂ were established in 2001. A PSD minor source baseline for NO₂ was established in 1995.</p> <p>This facility was exempted from having to demonstrate compliance with this standard by using air dispersion modeling for this project. See modeling summary dated December 3, 2015.</p>
Standard No.8 (state only)	This facility was exempted from having to demonstrate compliance with this standard by using air dispersion modeling for this project. See modeling summary dated December 3, 2015.

PUBLIC NOTICE

This construction permit will undergo a 30-day public notice period to establish a synthetic minor limit in accordance with SC Regulation 61-62.1, Section II(N). This permit was placed in the SCDHEC Public Notice Website on December 18, 2015. The comment period was open from December 18, 2015 to January 16, 2016.



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Page 5 of 5

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SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.

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